REMARKS

The present Amendment cancels claim 1 and adds new claims 2-17. Therefore, the present application has pending claims 2-17.

Claim 1 stands rejected under 35 USC §102(e) as being anticipated by Kolnick (U.S. Patent No. 5,502,839). As indicated above, claim 1 was canceled. Therefore, this rejection is rendered moot. Accordingly, reconsideration of this rejection is respectfully requested.

As indicated above, the present Amendment adds new claims 2-17 which recite features of the present invention not taught or suggested by any of the references of record particularly Kolnick.

The present invention as now more clearly recited in new claims 2-17 is directed to a method of controlling a target device using a communication system including an accessor total port, an accessor device connected to the accessor total port, a target total access port connected to the target device which is an unmodified electronic device and a total access link between the accessor total access port and the target total access port. According to the present invention, user actions expressed in whatever form the users desires intended to control the target device are converted by the accessor device into data of device-dependent form specific to the accessor device. The data of the device-dependent form specific to the accessor is sent to the accessor total access port. The accessor total access port translates the data sent from the accessor device of the device-dependent form specific to the accessor device into device-independent form. The data of the device-independent form is transmitted from the accessor total access port to the target total access port

and then translated into data of the device-dependent form specific to the target device. The data of the device-dependent form specific to the target device is then sent to the target device, wherein the target device is controlled by the data of the device-dependent form specific to the target device.

By use of the features of the present invention as described above a user using any combination of accessor device and accessor total access port can control any target device having a target total access port without the need for the user to be concerned with whether the appropriate driver software has been properly installed in the target.

The features of the present invention as recited in the claims are not taught or suggested by Kolnick whether taken individually or in combination with any of the references of record. Particularly, Applicant submits that the features of the present invention are intended to allow a user who may be limited or chooses to express his intentions in a specific manner to control standard devices (i.e., computers, ATM"s, microwave ovens, etc.) without modifying or customizing the standard devices. Thus, Applicant's invention can control, for example, an unmodified standard personal computer without the use of an interface type program or other custom software.

Upon review of the teachings of Kolnick, it is apparent that:

Kolnick does not teach or suggest converting, by the accessor device, user actions intended to control the target device into data of a device-dependent form specific to the accessor device, wherein the data of the device-dependent form specific to the accessor device is used to control the target device, and wherein the

accessor device is a human interface device that accepts intentions from the user in whatever form the user expresses them as recited in the claims.

Further, Kolnick does not teach or suggest controlling the operation of an unmodified target device by use of the data of the device-dependent form specific to the accessor device as recited in the claims.

Still further, Kolnick does not teach or suggest translating the data of the device-dependent form specific to the accessor device into data of a device-independent form containing user-functional representation of the data sent from the accessor device as recited in the claims.

Still further yet, Kolnick does not teach or suggest translating the data of the device-independent form containing the user-functional representation of the data sent from the accessor device into data of a device-dependent form specific to the target device as recited in the claims.

Kolnick teaches a system entirely different from that recited in the claims. Kolnick provides an object oriented software architecture which allows for input/output device independence by use of virtual input/output devices installed in the apparatus. The independence being taught in Kolnick is not that of allowing any type of unknown input/output device to interface to the network apparatus taught by Kolnick, but instead is for allowing processes being executed by the apparatus taught by Kolnick to perform input/output operations relative to known input/output devices without knowing how the input/output devices operate.

Kolnick is specifically directed to allowing various types of input/output devices to operate on a network with respect to various processes being executed

on the network without the processes having to know the specifics of operating the input/output devices or vice-versa such as that illustrated in Figs. 1 and 2. The input/output devices for which independence is to be provided as taught by Kolnick are input/output devices such as the operator display module 41 or a printer 42 as illustrated in Fig. 2. Kolnick teaches that the input/output devices 41-44 are connected by a connector 40 to a node 7 which is connected to the LAN 1. The virtual input/output device, the LAN, and the programs which are resident on and executed by or at least one each of the nodes, are configured by the software taught by Kolnick in a manner as illustrated in Fig. 3. As per Fig. 3, an input/output device 85, for example, can input information to its processor 5, and cause the execution of one of the processes P8 through the virtual machine. Further, as per Fig. 3, an output can be provided from the process P8 to another input/output device 83. The input/output device 85, the process P8, and the input/output device 83 need not know the specifics of how they each operate.

An important feature in Kolnick is the use of the virtual machine 61 which makes it possible for the processes, which can be resident on any one of the processors, to be freely accessible and operated by any of the input/output devices. Thus, Kolnick teaches customized software, namely the virtual machine, that provides an interface between the processes and the input/output devices. Therefore, Kolnick teaches that the LAN structure is modified by a virtual machine 61 to permit the processes executed on the network to be operated or accessed by any one of the input/output devices. Accordingly, the virtual machine must be completely aware of not only the target device (the LAN structure including all connected

devices and processes) and the requirements for operating the target device, but also the input/output devices and the requirements for operating the input/output devices.

Accordingly, in Kolnick, if a new type of input/output device or process is added to the LAN structure, then the virtual machine 61 must be changed since it would not know how to perform communications between and operate the new type of input/output device or process with respect to the LAN structure. More particularly, the apparatus as taught by Kolnick does not allow for the use of a previously unknown input/output device to control the LAN structure where the user can input user actions or intentions in whatever form of expression he chooses.

The present invention avoids the problems inherent in Kolnick by providing the total access ports and accessor device which do not require that the target machine be modified or customized (i.e., virtual machine, custom software, etc.). Therefore, in the present invention, any accessor device can control any target device through the total access ports. Such is not possible in Kolnick.

To more fully understand the features taught by Kolnick, the Examiner's attention is directed to Fig. 8 thereof wherein the operation of the system is graphically illustrated. As taught by Kolnick, a physical device 188 can only communicate with the other devices or processes on the network through a virtual input device 186 or a virtual output device 187. The virtual input device 186 and the virtual output device 187 are integral parts of the LAN structure and must be changed or modified whenever new types of input/output devices are added to the LAN structure. Otherwise it would be impossible for the virtual input device 186 and

the virtual output device 187 to communicate with the newly added input/output device.

When an input/output device inputs a communication 208, the virtual input device sends a communication 211 to a picture process and a communication 210 to an application. The picture process also sends a communication 201 to the application, and a communication 204 to the display process. The display process sends a communication 202 to the application. The application in response to the communications 210, 201, 211 and 202, performs a process and then outputs a communication 203 to the form process 182 and a communication 213 to the virtual output device. The form process 182 outputs a communication 205 to the picture process 184 which outputs a communication 206 to the window process 185 and a communication 212 to the virtual output device. The window process 185 outputs a communication 207 to the virtual output device. The virtual output device in response to the communications 207, 212 and 213 outputs a communication to the input/output device 209.

Thus, as is clear from Fig. 8 of Kolnick, the virtual input device 186 and the virtual output device 187 are integral parts of the LAN structure to permit input and output of commands and data to/from an input/output device. Any modification to the applications or changes or additions to the input/output devices would require changes in the virtual input device 186 and virtual output device 187. This need for constantly customizing the virtual input device 186 and the virtual output device 187 of Kolnick is a disadvantage and is overcome by the present invention as recited in the claims.

Therefore, based on the above, it is quite clear that the features of the present invention as recited in the claims are not taught or suggested by Kolnick whether taken individually or in combination with any of the other references of record.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the reference utilized in the rejection of claim 1.

In view of the foregoing amendments and remarks, Applicants submit that claims 2-17 are in condition for allowance. Accordingly, early allowance of claims 2-17 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (530.37031CP2).

Respectfully submitted,

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